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AUTHOR Haran, Elizabeth M.; And Others
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ABSTRACT

In a longitudinal study of precursors of drug usage, data collected in 1968 on health variables was related to substance usage patterns obtained in 1975-76. Some 657 young Puerto Ricans were interviewed for this study, drawn from a pool of about 5,000 questionnaired in 1968. The major findings were that the health factors associated with drug involvement were mainly those of habit and fatigability. Other factors which could be used as descriptors of specific substance users included sensory impairment and digestive problems as well as not having psychosomatic or mobility problems. The best predictors were found in the area of: habits, especially sleeping patterns; facial appearance; sense receptors (eyes, ears); mobility and activity restrictions; heart trouble; nervousness; and the taking of prescription medicines or pills. The highest number of associations as well as the best predictive ability was found in the marijuana and alcohol groups. The least amount of significant relations and predictors was found in the realm of heroin use. (Author)

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HEALTH CHARACTERISTICS AS PRECURSORS OF SUBSTANCE ABUSE IN PUERTO RICAN ADOLESCENTS

Elizabeth M. Haran

Ronald L. Nuttall

Laboratory for Statistical and Policy Research

Boston College

Ena Vázquez Nuttall

University of Massachusetts - Amherst

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The health of the adolescent drug user is a major concern of governmental agencies, private professionals and the general public and has therefore merited a large proportion of the studies on drug abuse in young adults. The research that has been done on the relationship between health characteristics and adolescent drug use has had its major focus, however, on the health of the adolescent as a consequence of drug use. Studies by Vajay (1973) Ross (1972), Colon (1972), Fishback (1973), Young, et al (1972) are among the many that have documented the health dangers associated with illegal drugs. Other studies, such as those by Prendergas, et al, (1973) and Guilford (1968) presented possible health hazards as consequences of alcohol and smoking.

Concern with the dangers associated with adolescent drug use led to the development of many treatment and/or intervention programs. There were, however, many difficulties involved in carrying out effective intervention programs involving the cessation of smoking (Kentyes, 1968), alcohol abuse, (Chafety, 1970) and drug abuse (Valliant, 1966). In particular, once these drug taking attributes have become integrated into the individual's life-style, the task of selecting a mode of intervention becomes increasingly complex. Since it is during adolescence that these activities are most likely to occur, it is then that the possible characteristics or conditions which may predispose one to drug use should be investigated. Hopefully the early identification of predisposing factors will aide in the development of effective drug-treatment and/or intervention programs and will help to

alleviate the dangers to health associated with substance abuse.

Unfortunately precursors of drug abuse particularly in the health area have been subject to little investigation. Of the few studies that have been done using health factors as possible predictors of drug use most are retrospective in nature. One such study (Carney, Timns and Stevenson, 1972) reported on the background factors of 50 adolescent drug abusers in Dublin. Information on the medical history of the user was included.

The major work in this area was done by Blum and his associates (1969, 1972). In the first of these studies (Blum & Associates, 1969) the data did not support the expectancies that drug users would differ in the kinds of medical problems they reported in a brief medical-life history. In a later study (Blum & Associates, 1972) where the data was collected by means of parent descriptions of their children, the results did show differences between drug risk categories and health problems.

Blum found that differences between high and low risk cases occurred in their pregnancies, in infant health status, in early versus late feeding patterns in allergies and in medical care histories. Specifically, his study found that: low risk infants were healthier at infancy; serious illness between the ages of two and twelve and frequent illnesses during infancy characterized high risk children. During infancy and the teen years, moderate risk individuals were least likely to experience respiratory illnesses; as teenagers moderate risk individuals

also had fewer accidents leading to broken bones; that allergies were found most often for low risk youngsters; that those in the low risk group were most likely to be hospitalized for serious infectious diseases but that high risk students spent the greatest total time in the hospital. He also found that high risk people were more often bed wetters between the ages of two and twelve, that high risk people, as teens, had more frequent headaches, that moderate risk children suffered from wakefulness in the night less often than did other individuals; that high risk students had gone through puberty later and had had more maturation problems; low risk children had taken fewer aspirin, vitamins, laxatives, anti-allergy compounds or stomach remedies; high risk individuals had received tranquilizers when infants. In general then, his findings show more infant and feeding problems more childhood health problems, longer hospitalization, more psychosomatic disorders (headaches, bed wetting), and the use of more over the counter remedies associated with a high risk of drug involvement.

In the present study we have attempted to investigate the health characteristics of Puerto Rican adolescents in an attempt to identify precursors to substance abuse. Throughout our analysis the results obtained by Blum and Assoc. will be kept in mind and will serve as a comparison for the results we obtain.

SAMPLE AND METHODOLOGY

The sample for this study was drawn from participants in an extensive study of over 5,300 students who were attending

junior or senior high school in Bayamon Norte school district in Puerto Rico. These students represented approximately 80% of the students in the nine secondary schools in the district who had completed a set of over 15 instruments in 1968. This district in Puerto Rico is characterized as being more urban, better educated and faster growing than is the entire population of Puerto Rico, however, it does have representation from rural farmland, urban low-income and surburban middle class groups and may be an area that is indicative of future characteristics of the island's population.

The sample of 657 adolescents on whom the results of this study are based were selected from the 1968 group in such a way that individuals at high risk of becoming involved in drugs were more likely to be included than those at low risk. This procedure was based on a discriminant function model (Nuttall, et al, 1976), and was implemented to alleviate some of the difficulties typical of proscriptive research in achieving adequate representation of low incidence behavior. The final sample involved 341 males and 316 females whose median age in 1975 was 23. Nearly 90% of the students had graduated from high school and about half (46%) had at least some college experience.

INTERVIEWERS

Six people, three men and three women, conducted the interviews. Two of the interviewers had bachelor's degrees in social work and two had bachelor's degrees in psychology. All were native Ruerto Ricans and the interviews and questionnaires were all done in Spanish. Two of the male interviewers were ex-drug addicts and the remaining four interviewers had worked in drug related settings either as therapists, administrators or as researchers. The interviewers were not told of the high-risk, low-risk dichotomy nor were they told which respondents were high or low risk. They were assigned interviews on a geographical basis.

INSTRUMENTS AND PROCEDURES

The subjects in the 1968 study had completed a set of self-administered instruments one of which was a questionnaire designed to provide information about their health characteristics and background.

The particular health questions used were selected from the Cornell Medical Index Health Questionnaire (Brodman, Erdman and Wolfe, 1949) and translated and adapted to Puerto Rican culture by a bilingual researcher.

The data was collected in 1975 by means of interviews which covered broad areas of functioning and behavior. A major section of the interview schedule dealt with drug usage and attitudes toward drug substances. This section of the interview was a written questionnaire which the respondents were asked to complete and place in a sealed envelope. This was just one of the ways used to assure the respondents of the

confidentiality of the responses made.

The questionnaire itself consisted of questions concerning the abuse of the following substances: cigarettes, marijuana and hashish, amphetamines, barbituates, heroin, hallucinogens, alcohol and cocaine. Since we were concerned about possible inaccuracies in the self-admissions of drug usage gathered during an interview session three indirect measures of drug involvement were included with a direct rating. The direct measure consisted of the respondents' indicating how often they used various drugs on a six point scale ranging from "never" to "nearly every day". The indirect measures were: degree of approval of drug usage, estimates of friends' use of drugs, and scores on a vocabularly test for slang words relating to different drugs. Correlations among these four types of measures were significant at the .001 level for each drug examined.

DESIGN

A partial correlation approach was taken as a first step in this investigation. The correlations of the measure of use of heroin, marijuana, alcohol, cigarettes and the health characteristics were obtained. Since we were investigating health as a correlate to future drug involvement students were selected into the analysis on the basis of their being younger when they filled out the health questionnaire than when they started taking any of the drug substances. Then the effects of socioeconomic status defined in this analysis as mother's and father's level of education, were partialled out of these correlations.

In order to investigate not only the association of health factors with drug use, but also the predictive

capacity of these variables to drug involvement, a series of multiple regression analyses were also performed. A step-wise multiple regression procedure was used where the scale of drug involvement was the dependent variable and the health items were the independent variables in the analysis.

RESULTS

The results of the correlational analysis are summarized and presented in Table 1. These analyses revealed that a number of health traits were significantly associated with subsequent drug use in our sample of adolescents.

The health factors which show the largest number and strongest relationships with drug use were staying up late on weekends; smoking for a long period of time; being hard of hearing; not having worse facial skin than peers; having a difficult time getting up in the morning to accomplish things that have to be done; and not being under doctor's orders to avoid physical exertion or strenuous exercise. Not being nervous is related to involvement with heroin, other drug, alcohol and marijuana use

The characteristics which show considerable overlap in association with drug groups when used in analysis with the total sample were having late weekend retiring hours, being long time smokers, not having worse facial skin than peers and having difficulty rising.

The health characteristics which were specifically associated with one drug group and the drug group with which they were associated were the following: not having speech which is easily understood, having frequent indigestion, not having

to use corrective appliances, not being bothered by dizzy spells or by frequent aches and pains, are all significantly correlated with alcohol usage only, and, not having normal use of both hands, having little energy to work and not having severe headaches are correlated only with involvement in drugs such as amphetamines, barbiturates, and hallucinogens.

The substance which showed the most significant relationships with health factors was alcohol. In all, seventeen health items correlated significantly with a high level of alcohol use. There were ten significant correlates with marijuana and other drug use, six with cigarette use and only three with use of heroin.

Table 2 presents results which show the possibilities for using health variables in predicting drug involvement Factors which showed considerable overlap in the regression analysis were weekend retiring hours, worse skin than others, difficulty seeing, difficulty rising to get things done and difficulty hearing. Other variables which contributed to prediction of drug use were: severe headaches; use of corrective appliances; weight; diagnosed heart trouble; taking prescription medicines or pills; nervousness; smoking cigarettes and being advised by a doctor to avoid exertion.

The highest predictive capacity of health variables was found in the use of marijuana where 17% of the variance was explained by six of the health factors. Sixteen percent of the variance in alcohol usage was explained; eleven percent in cigarette usage; 9 percent in the use of other drugs but only one percent of the level heroin use involvement was explained.

DISCUSSION AND CONCLUSION

The objective of this study and the analysis included within it have been to investigate the possibility of using health related characteristics of young people in the development of a profile of a drug user and/or a potential drug user. The general results have been to substantiate the feasibility of such a health-profile.

Health factors associated with drug involvement were mainly those of habit and fatigability. Other factors which could be used as descriptors of specific substance users included sensory impairment and digestive problems as well as not having psychosomatic or mobility problems.

The best predictors were found in the area of: habits, especially sleeping patterns; facial appearance; sense receptors (eyes, ears); mobility and activity restrictons; heart trouble; nervousness; and the taking of prescription medicines or pills.

The highest number of associations as well as the best predictive ability was found in the marijuana and alcohol groups. The least amount of significant relationships and predictors was found in the realm of heroin use. This result is not surprising since on statistical grounds the small number of heroin users and the skewness of their distribution in the population contributes to the small correlation and regression results.

These findings are encouraging in that health correlates to drug involvement have been identified, some of which are similar to those identified in previous studies. In addition this study has gone further

than previous research efforts in identifying factors which have predictive ability in the area of subtance abuse. It is hoped that continued efforts in this area will be of assistance in the early identification of potential users and in the design of effective preventive and treatment programs.

References

Blum, R.H. & Associates. Society and Drugs. San Francisco: Jossey-Bass, 1970.

Carney, P.A., Timms, W.M., & Stevenson, P.D. The social and psychological background of young drug abusers in Dublin. British Journal of the Addictions, 1972, 67, pp. 199-207.

Chafety, M.E., Blane, B.T.,& Hill, H.J. Frontiers of Alcoholism. New York: Science House, 1970.

Colon, P.G. Dental disease in the narcotic addict. Oral Surgery, 1972, 33, (6), 905-10.

Fishback, R. Pyongenic vertebral osteomyelitis in heroin addicts. California Medical Journal, 1973, 119, (2), 1-4.

Guilford, J. Smoking and health revisited. In Borgatta and Evans (eds.), Smoking, health, and behavior, 1968, 22-40.

Kentyes, C.B., Lichtenstein, H., Meis, H.L. Modification of smoking behaviors: a review. Psychological Review, 1968, 70, 520-33.

Nuttall, R.L., Nuttall, E.V., Ostermann, C., Zayas, Y., and Muñoz, R.A. Identifying individuals at risk among Puerto Rican adolescents. Proceedings, 1976, of the National Association for the Prevention of Addiction to Narcotics. Cambridge, Massachusetts: Schenkman Publishing Company, Inc. 1976.

Prendergas, T., Preble, M., & Tennant, F. Drug use and its relation to alcohol and cigarette comsumption in the military community of West Germany. International Journal of the Addictions, 1973, 8 (5), 741-754.

Ross, J. Profiles of adolescents admitted to Mississippi State Hospital in 1972 for drug problems. Journal of the Mississippi State Medical Association, 1973, 14 (10), 445-447.

Vajay, A. Treatment of drug addicts in private practice. Medical Times, 1973, 101, (1), 54-62.

Valliant, G.E. A 12 year-year follow-up of New York narcotic addicts. Archives of General Psychiatry, 1966, 15, 599-609.

Young, A., Digrande, E. and Wagers, L. Skin stigmata of adolescent drug addiction. Modern Treatment, 1972, 9, (1), 117-136.

Table 1

TOTAL SAMPLE 8-18

Summary Table - Partial Correlation

HEALTH MEASURE	LEVEL OF SIGNIFICANCE AND DIRECTION OF RELATIONSHIPS				
	Heroin	Marijuana	Other	Alcohol	Cigarettes
Days Sick Past Year					
Length of Longest Illness					
General Health					
Doctor Visits Last 6 Mos.					
Hrs. Sleep Nightly					
Weekend Retiring Hrs.		(-)***	(-)***	(-)***	(-)***
No. Cigarettes Weekly		(-)***			
How Long Smoking		(-)***		(-)***	(-)***
Always Wear Glasses					
Difficulty Seeing Distances				(-)**	
Wear Glasses Sometimes				(-)*	(-)*
Difficulty Hearing Others		(+)**	(+)*		
Hard of Hearing	(+)*	(+)*	(+)*		
Use Hearing Aid					
Can Always Speak Clearly					
Speech Easily Understood				(-)*	
Worse Skin Than Others		(-)*		(-)*	(-)**
Worse Facial Skin Than Others					
Blow Resulting in Loss of Consciousness					
Normal Use of Legs					
Normal Use of Arms					
Normal Use of Both Hands			(-)***		
Back or Spine Trouble					

Table 1- continued

TOTAL SAMPLE (Contd.)
8-18

HEALTH MEASURE	Heroin	Marijuana	Other	Alcohol	Cigarettes
Frequent Indigestion				(+)*	
Use Corrective Appliance				(-)*	
Had Mumps					
Had Rheumatic Fever		(+)*	(+)***		
Had Asthma					
Had Mononucleosis					
Condition of Teeth					
Trouble Sleeping	(-)*			(-)**	
Trembling Limbs					
Are You Nervous	(-)**	(+)*	(-)*	(-)*	
Troubled By Rapid Heart					
Shortness of Breath					
Frightening Dreams					
Lack of Energy to Work			(+)*		
Difficulty in Rising		(+)***	(+)**	(+)*	
Doctor Diagnosed Allergy					
Diagnosed Heart Trouble					
Frequent Sore Throats					
Had Polio					
Had Aching Joints					
Severe Headaches			(-)*		
Spells of Dizziness				(-)*	
Frequent Aches and Pains				(-)*	
Frequent Colds					
Persistent Colds					

Table 1- continued

TOTAL SAMPLE (Contd.)
8-18

HEALTH MEASURE	Heroin	Marijuana	Other	Alcohol	Cigarettes
Special Diet					
More Sleep Than Peers					
Avoid Exertion		(-)*	(-)*	(-)*	
Special Exercise					(+)*
Prescribed Medication or Pills				(-)***	(-)*
Height				(-)*	
Weight				(-)**	

*p < .05 **p < .01 ***p < .001

Table 2

Regression Results Predicting Drug Use from Health Variables

OTHER DRUGS TOTAL SAMPLE

Variable Entered	R^2	r	B
Week-end retiring hours	.03514	-.18904	-.16592
Difficulty hearing others	.05850	.15354	.16120
Severe headaches	.07258	-.10525	-.13794
Difficulty in rising	.08757	.13482	.12517

ALCOHOL

Variable Entered	R^2	r	B
Week-end retiring hours	.04630	-.21518	-.18212
Avoid exertion	.06962	-.14768	-.17140
Difficulty seeing distances	.08932	-.14866	-.19227
Use Corrective Appliances	.11670	.11517	.13546
Weight	.13239	-.17445	-.13819
Diagnosed heart trouble	.14761	.07427	.14163
Prescribed medication or pills	.16107	-.14983	-.11856

CIGARETTES

Variable entered	R^2	r	B
Week-end retiring hours	.06918	-.26302	-.24014
Worse facial skin	.09779	-.17200	-.19486
Difficulty in rising	.11413	.13217	.13203

Table 2 Continued

MARIHUANA — TOTAL SAMPLE

Variable Entered	R^2	r	B
Week-end retiring hours	.06290	-.25079	-.22445
Number cigarettes weekly	.09465	-.25079	-.19897
Difficulty seeing others	.11762	.17064	.15540
Worse Facial Skin than others	.14122	-.13361	-.26826
Worse Skin than others	.15819	-.0187	-.20076
Nervous	.17272	-.11226	-.12385

HEROIN

Variable Entered	R^2	r	B
Hard of hearing	.01402	.11840	.11840